NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(Pursuant to NAC 445A.236)

Permittee Name: Reno Drain Oil Service
11970 I-80 East
Sparks, Washoe County, NV 89434

Permit Number: NEV92028

Location: Reno Drain Oil Service
11970 I-80 East, Mustang Exit #23
Sparks, Washoe County, NV 89434
Township 19N, Range 21E, SE¼ SE¼ Section 9

Recycling Plant:
Latitude: 39° 31' 21.2" N, Longitude: 119° 37' 45.7" W
Elevation: 4,445 feet Above Sea Level

Effluent Outfall (Eagle Property):
Latitude: 39° 31' 28.4" N, Longitude: 119° 37' 52.1" W
Elevation: 4,650 feet Above Sea Level

Bureau of Corrective Actions Sites: Two (2) reported release sites managed by the Washoe County District Health Department, sites # D-000003 and D-000119, are referenced in the Bureau of Corrective Actions (BCA) Project Tracking Database as occurring geographically within a one-mile radius of the Reno Drain Oil Service (RDO) where the effluent reuse is in occurrence and proposed to continue. According to analysis and discussion with BCA, based on the nature of both releases, neither event had any impact on the Reno Drain Oil Service facility.

Wellhead Protection Area: Effluent reuse on the Eagle Property occurs within the 1,000 ft Drinking Water Protection Area #2 (DWPA #2) of two community wells supplying the 12-unit Sage Mobile Home Park (MHP). As of the last BWPC site inspection at RDO on 6/19/09, BWPC was notified that the Sage MHP will be decommissioned as an MHP, and park residents were issued a 6-month closure notification. Upon closure, the MHP property will be re-developed into a storage yard lot for a local construction company.

General: RDO is located on the north side of I-80 East at Mustang exit #23. RDO is a used oil recycling facility, which collects used lubrication oil and makes a #2 grade fuel oil for combustion in industrial burners. RDO collects its used oil from service garages and quick lube shops. Byproducts of the used oil recovery process include wastewater (e.g., 10% moisture impurity), fuel-oil used to power the plant and asphalt crude stock

The RDO recovery system consists of the following steps: demulsifying, emulsion decanting, chemical flocculation and pH adjustment, vacuum filtration (diatomaceous earth or D.E.) and adsorption (carbon or GAC) for hydrocarbon removal. The hydrocarbon-laden, spent media is either land filled (D.E.) or thermally regenerated (GAC). Normal production capacity through the treatment system is 7½ GPM.

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Treated effluent is loaded into a water truck and hauled approximately ¼-mile away to the neighboring Eagle Property. Mustang Metals (aka Mustang Auto Wreckers) formerly operated this property as an automotive wrecking yard and left behind 20-acres of "fluff" piles, i.e., the non-ferrous, shredded car waste such as upholstery stuffing. When the fluff piles are dug up and hauled to the Lockwood Landfill (Storey County), the RDO water truck applies the treated effluent for dust abatement on the piles and adjoining haul road. RDO estimates that 10-acres of fluff material remain on site for eventual removal and effluent application.

Receiving Water Characteristics: The non-public supply well, located nearest to the Eagle Property was installed for the Mustang Auto Wreckers Company in July, 1975 (Well Log #14862). This well log had indicated a static groundwater level of 150 feet below land surface. Local groundwater gradient is indicated in the application to be southeast towards the Truckee River located ¾-mile away from the fluff piles on the opposite (south) side of I-80. This discharge permit allows effluent application for dust abatement at a rate not to cause any surface pools, runoff or groundwater recharge.

Flow: The renewal application requests a monthly effluent limit of 80,000 gallons per month or 2,750 gallons per day (GPD). As of the last inspection, the facility discharged an average of 584 gallons per day, equivalent to running the treatment system 1¼ hours daily. If operated continuously, the facility indicates a maximum effluent throughput of 172,800 gallons monthly or 5,760 GPD. In practice, the treatment system is started and stopped periodically between production batches for chemical dosing adjustment (jar testing), D.E. media charging (filter pre-coating) and GAC replacement.

DMR Analysis:

- TPH (1.0 mg/l): The current permit requires a monthly "full range" TPH analysis, i.e., purge and extract sample bottles to determine Gas (GRO), Diesel (DRO) and Oil-Range (ORO) Petroleum Hydrocarbons (e.g., C6 – C40). Over the past five years, RDO had only reported the extractable hydrocarbon fraction, and with its sampling, reported four (4) monthly limit violations where the effluent was discharged above the 1.0 mg/l limit. When lab sheets indicated speciation, exceedances appeared to indicate elevated Diesel Range Organics (w/omission of GRO & ORO). To address this reporting deficiency, the proposed permit conditions define further the full range hydrocarbon reporting requirement. To address the discharge of off-limit effluent, the proposed permit conditions further stipulate that no discharge of effluent is to occur until RDO receives laboratory notification from its certified lab of effluent quality. This will require RDO to store effluent in its finished water tank while awaiting lab results. Off-limit effluent would then require reprocess to meet the required TPH limit.
- Ethylene Glycol (M&R): The current permit requires a monthly ethylene glycol determination. Ethylene glycol (antifreeze) impurity occurs in the used oil loads from automotive engine operation (e.g., worn seals/gaskets) and improper source segregation at collection garages where antifreeze is improperly mixed with waste oil. Over the past five years, RDO has omitted reporting this parameter in all months. Neither the Division nor the U.S. EPA has presently enacted a Maximum Contaminant Level (MCL) for ethylene glycol ingestion. According to the Agency for Toxic Substances and Disease Registry ToxFAQs™, "EPA has determined that lifetime exposure to 14 ppm ethylene glycol is not expected to cause any adverse effects". Further data is needed from this facility to determine a specific ethylene glycol limit, if needed.

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- pH (6.0 to 9.0 S.U.): The current permit requires a monthly pH demonstration. Over the past five years, RDO has reported eighteen (18) monthly exceedances, which the Division attributed to the facility's use of a litmus paper testing method to determine final pH adjustment during the chemical adjustment. The Division considers litmus paper end-point pH adjustment as relatively inaccurate considering more accurate methods for RDO's wet lab, which are readily available and fairly inexpensive. RDO has been referred to investigate and provide a more accurate method of conducting its in-house pH analyses (e.g., reference-solution calibrated pH meter) to minimize any discharge of off-spec effluent, which is not adequately pH-adjusted. Except for one exceedance, the RDO pH exceedances were on the low pH range indicating insufficient neutralization with caustic soda to balance the aluminum sulfate flocculation step. The compliance determination of pH for the RDO effluent occurs at its certified lab.

- Metals (M&R): The permit requires an annual metals analysis. The Division has not presently enacted discharge standards of metals for dust abatement. Comparison of the 2009 RDO metals analysis with the toxic standards in NAC 445A.144 (e.g., irrigation use), no individual metal level would have exceeded the State's irrigation standard. Heavy metals presence in non-hazardous, used waste oil is thought to occur from petroleum crude content, engine combustion byproducts or contact of the lube oil with metallic engine components. Some metals removal is expected to occur with the carbon adsorption treatment step.

- Carbon Replacement: Part I.A.2 in the current permit required all carbon replacement to be reported, which was overlooked in the facility's DMR reporting. RDO has mentioned a "typical" annual replacement period for its carbon. Three (3), 400#/ea vessels are operated in series-flow arrangement. The proposed permit carries over the carbon replacement reporting requirement.

Proposed Effluent Limitations and Special Conditions: The proposed permit carries over the existing permit limits, and at the application's request, revises the flow limit to 80,000 gallons/month (2,750 gallons/day). The metals analysis (inorganic constituents) requirement is included in an annual Profile 1 determination. One change noted is Footnote 2 in Table 1 (below) requiring that no discharge of RDO effluent is to occur until its has receipt of lab notification of effluent TPH level to minimize any future discharge of off-spec effluent at the Eagle Property.

In the Schedule of Compliance, the facility is required to update its O&M Manual, last prepared in 1998 and later updated in 2004 to denote the rotary vacuum filter addition. At the last site inspection, the facility indicated it would be soon making minor process modifications within the next five years discussed to include adding an oil skimmer and a bio-sorbent pre-filter. Such changes were not meant to change the permit limits or effluent quality but rather extend the media operating life by reducing TPH loading onto the D.E and GAC media.

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Table 1: Plant Discharge Limitations[1, 2]

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type or Location
Flow (Effluent)	2,750 gallons per day	80,000 gallons per month	Process Logbook	Each Water Truck Loaded
Purge/Extract TPH (8015B/8260B), mg/l	1.0		Monthly	Discrete
Ethylene Glycol, mg/l	Monitor & Report (M&R)		Monthly	Discrete
pH, Std. Units	Within 6.0 – 9.0		Monthly	Discrete
Profile 1 Analysis	M&R (All Parameters)		Annually (4th Quarter)	Discrete
GAC Replacement	Monitor & Report (M&R)		Quarterly	Report amount (lbs) of carbon replaced

1. Full-Range TPH (Purge & Extract) – Report the C6 - C40 hydrocarbon range (GRO, DRO & ORO).
2. Effluent cannot be used for dust abatement until laboratory notification of compliance with the 1.0 mg/l full-range TPH limit is obtained by the Permittee.

Schedule of Compliance: The Permittee shall submit the following items to the Division for review and approval **(all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control)**:

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

- Within thirty (30) days of the permit issuance date, the Permittee shall update its Operations & Maintenance (O&M) Manual in accordance with the Division's WTS-2 guidance document entitled *Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant*.

- Within thirty (30) days prior to startup of any process modifications (e.g., oil skimmer or bio-sorbent pre-filter), the facility shall provide written notification to the Division of the proposed changes and follow up with O&M addendum material.

Procedures for Public Comment: The Notice of the Division's intent to issue (renew) the proposed discharge permit for a period of five (5) years, subject to the conditions contained within the permit is being sent to the **Reno Gazette-Journal** newspaper for publication. The notice is also being electronically mailed to interested persons on our public notification mailing list. Anyone wishing to comment on the proposed permit can do so in writing within a period of thirty (30) calendar days of the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **Monday, November 9, 2009, by 5:00 P.M. PST.**

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A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: The Division has made the tentative determination to issue (renew) the proposed water pollution control discharge permit to RDO for a period of five (5) years.

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Date: October 5, 2009

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